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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,156	01/19/2006	Kazumichi Machida	050753	8103

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KRATZ, QUINTOS & HANSON, LLP
1420 K Street, N.W.
Suite 400
WASHINGTON, DC 20005

EXAMINER	
PATEL, PARESH H	

ART UNIT	PAPER NUMBER
2829	

MAIL DATE	DELIVERY MODE
05/12/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,156	MACHIDA ET AL.	
	Examiner	Art Unit	
	Paresh Patel	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 2* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/06,10/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Bimetal probe with different thermal expansion coefficient".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-2 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maruyama et al. (US 6791345) and in view of Flechsig et al. (US 7176703) or Ding et al. (US 6577147).

Regarding claim 1, Maruyama et al. in fig. 19B discloses a probe comprising:

an almost rectilinear contact part **[bimetal contact electrode]** which can come in contact with an electrode of an object to be measured almost perpendicularly; and

a base end **[one end of the contact electrode]** continued to the contact part,

characterized in that said contact part further comprises a base part **[one metal of bimetal]** and an almost rectilinear junction part **[other metal of the bimetal contact electrode]** which is formed of a material having a thermal expansion coefficient different from that of the base part **[inherent to "***In the example shown in FIG. 19B, the contact electrode itself is formed of a bimetal so that the LSI-side contact electrode part 6a is deformed by* ***heating or cooling****, which presses an end of the LSI-side contact electrode part 6a against the electrode terminal 2a of the LSI while performing a wiping operation. When a bimetal is used,* ***since the deformation of the bimetal is reversible, a contact pressure generated by heating the bimetal can be cancelled by cooling.*** *In order to perform such alternate heating and cooling, it is preferable to provide an electronic cooling element such as a Peltier element to the contactor substrate 8."* **Also see fig. 10B of Flechsig et al. and Fig. 3 of Ding et al.]** and provided integrally and longitudinally along a widthwise end of the base part **[see fig. 19B]**, and in that said contact part is deformed **[not shown, but is either inherent or obvious]** in a direction almost perpendicular to the longitudinal direction of said base part due to respective thermal expansion of said base part and said junction part at 85 to 125.degree. C **[see wafer heated up to 125º C]**.

Regarding claim 2, Maruyama et al. **in fig. 19B** discloses a probe comprising:

an almost rectilinear contact part **[bimetal contact electrode]** which can come in contact with an electrode of an object to be measured almost perpendicularly; and

a base end **[one end of the contact electrode]** continued to the contact part,

characterized in that said contact part further comprises a base part **[one metal of bimetal]** and a junction part **[other metal of the bimetal contact electrode]** which is integrally provided at a widthwise end of said base part, in that said junction part is formed of a shape memory alloy **[inherent to "***In the example shown in FIG. 19B, the contact electrode itself is formed of* ***a bimetal*** *so that the LSI-side contact electrode part 6a is deformed by heating or cooling, which presses an end of the LSI-side contact electrode part 6a against the electrode terminal 2a of the LSI while performing a wiping operation. When a bimetal is used,* ***since the deformation of the bimetal is reversible****, a contact pressure generated by heating the bimetal can be cancelled by cooling. In order* ***to perform such alternate heating and cooling,*** *it is preferable to provide an electronic cooling element such as a Peltier element to the contactor substrate 8."* **Also see fig. 10B of Flechsig et al. and Fig. 3 of Ding et al. for shape memory alloy Ni and Ti]** which can be expanded or contracted in a longitudinal direction of said base part at 80 to 90.degree. C. **[inherent to bimetal]**, and in that said contact part is deformed in a direction almost perpendicular to the longitudinal direction of said base part due to deformation of said junction part.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 571-272-1968. The examiner can normally be reached on 8:00 to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paresh Patel/
Primary Examiner, Art Unit 2829

May 08, 2008